

Appl. No. 10/708,330
Amtd. dated April 13, 2006
Reply to Office action of January 24, 2006

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

- 5 Claim 1 (currently amended): A method for fabricating a liquid crystal display (LCD) with a uniform common voltage, the method comprising:
 providing a lower substrate having a display area and a non-display area;
 forming a plurality of scan lines, a plurality of common electrodes, and
10 a plurality of common electrode pads on an upper surface of the lower substrate simultaneously, wherein the common electrodes are used for transmitting a common voltage and are positioned at the same plane as a plane where the common electrode pads are positioned on the lower substrate, and the common electrode pads are electrically connected to the common electrodes;
15 forming a plurality of data lines on the upper surface of the lower substrate, wherein the data lines are arranged perpendicular to the scan lines to form a pixel matrix in the display area, the pixel matrix comprising a plurality of pixels;
20 providing an upper substrate having a plurality of color filters, and black matrices disposed between adjacent color filters;
 forming a plurality of photo spacers on the upper substrate, each photo spacer being in direct contact with edge portions of adjacent color filters, and corresponding to one of the black matrices and one of
25 the common electrode pads on the lower substrate;
 forming a conductive material layer on the upper substrate to make the conductive material layer cover the surface of the photo spacers;

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combining the upper substrate and the lower substrate face to face by using the photo spacers to support a space between the upper substrate and the lower substrate, and electrically connecting the conductive material layer covering the surface of each of the photo spacers to the common electrode pads corresponding to each of the photo spacers; and
5 filling a plurality of liquid crystal molecules in the space between the upper substrate and the lower substrate, and sealing the space between the upper substrate and the lower substrate.

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Claim 2 (original): The method of claim 1 further comprising forming a plurality of thin film transistors (TFTs) on the upper surface of the lower substrate, wherein the TFTs are positioned on each intersection of the scan lines and the data lines as switching elements of the pixels.

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Claim 3 (previously presented): The method of claim 2, wherein the lower substrate further comprises an alignment film having a plurality of openings disposed on the common electrodes, and the dimension of each photo spacer plus the dimension of the conductive material layer covering 20 the photo spacer substantially equal to the dimension of each opening so that the alignment film is in contact with the conductive material layer.

Claim 4 (currently amended): The method of claim 1, wherein the color filters comprise red color filters, green color filters, and blue color filters 25 ~~are formed on a bottom surface of the upper substrate, and each of the color filters comprises a red color filter, a green color filter, and a blue color filter.~~

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Claim 5 (cancelled)

Claim 6 (original): The method of claim 1 further comprising forming a polarizer on a bottom surface of the lower substrate and forming a polarizer on an upper surface of the upper substrate.

Claim 7 (original): The method of claim 1, wherein each of the pixels contains one of the photo spacers.

10 Claim 8 (original): The method of claim 1, wherein the conductive material layer is a transparent indium tin oxide (ITO) layer.

Claim 9 (currently amended): An LCD with a uniform common voltage, the LCD comprising:

15 a lower substrate having a display area and a non-display area on an upper surface thereof, the lower substrate comprising:

a plurality of scan lines and a plurality of data lines, wherein the data lines are arranged perpendicular to the scan lines to form a pixel matrix in the display area, the pixel matrix comprising a plurality of pixels;

a plurality of common electrodes for transmitting a common voltage; and

a plurality of common electrode pads electrically connected to the common electrodes, the common electrode pads and the common electrodes are positioned at a same plane on the lower substrate;

an upper substrate positioned on the lower substrate oppositely, the upper substrate comprising:

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- a plurality of color filters, and black matrices disposed between adjacent color filters;
- 5 a plurality of photo spacers positioned on a bottom surface of the upper substrate for supporting a space between the upper substrate and the lower substrate, wherein each of the photo spacers is in direct contact with edge portions of adjacent color filters and corresponds to one of the black matrices and one of the common electrode pads of the lower substrate; and
- 10 a conductive material layer positioned on the bottom surface of the upper substrate covering the photo spacers, wherein the conductive material layer covering the photo spacers is connected to each of the common electrode pads corresponding to each of the photo spacers; and
- 15 a plurality of liquid crystal molecules filled in the space between the upper substrate and the lower substrate.

Claim 10 (original): The LCD of claim 9, wherein the lower substrate further comprises a plurality of TFTs positioned on each intersection of the scan lines and the data lines as switching elements of the pixels.

Claim 11 (previously presented): The LCD of claim 9, wherein the lower substrate further comprises an alignment film having a plurality of openings disposed on the common electrodes, and the dimension of each photo spacer plus the dimension of the conductive material layer covering the photo spacer substantially equal to the dimension of each opening so that the alignment film is in contact with the conductive material layer.

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Claim 12 (currently amended): The LCD of claim 9, wherein the color filters comprise red color filters, green color filters, and blue color filters are disposed on a bottom surface of the upper substrate, and each of the color filters comprises a red color filter, a green color filter, and a blue color filter.

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Claim 13 (cancelled)

Claim 14 (original): The LCD of claim 9 further comprising a polarizer positioned on the upper surface of the upper substrate and a polarizer positioned on the bottom surface of the lower substrate.

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Claim 15 (original): The LCD of claim 9, wherein each of the pixels contains one of the photo spacers.

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Claim 16 (original): The LCD of claim 9, wherein the conductive material layer is a transparent ITO layer.